

Client's Ref.:  
File: 7084-A21007PCTUS/Chiumeow/Kevin revised/f1

**What is claimed is:**

1           1. A prophy chip, mounted on the top of a dental  
2 rotary instrument for cleaning, polishing, and burnishing  
3 teeth, comprising:

4           a hollow cup-shaped core with canopy (semispherical),  
5 cylindrical, cupped, conical, inverted conical, or disk  
6 profile;

7           a shaft containing a connecting means for connecting  
8 the prophy chip to the dental rotary instrument to avoid  
9 vibration around the rotation axis of the core during  
10 rotation;

11          a hydrophilic grindstone sponge covering the core,  
12 wherein the hydrophilic grindstone sponge comprises a  
13 grindstone therein; and

14          a shank-equipped or undulated latch plate fixing the  
15 hydrophilic grindstone sponge by folding the edge thereof  
16 into the interior or the bottom of the core, or for  
17 gripping;

18          wherein the hydrophilic grindstone sponge is immersed  
19 in water prior to operation or absorbed saliva during  
20 operation without using a polishing paste to dissipate heat  
21 generated by friction.

1           2. The prophy chip as claimed in claim 1, wherein the  
2 hydrophilic sponge is hydrophilic latex sponge, or  
3 polyurethane sponge, and the hydrophilic latex sponge or the  
4 hydrophilic polyurethane sponge comprises a grindstone of  
5  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$  or  $\text{Ca}_{10}(\text{PO}_4)_6\text{F}_2$  as a wet grindstone sponge  
6 covering the core.

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1        3.    The prophylaxis chip as claimed in claims 1 or 2,  
2 wherein the hydrophilic sponge further comprises at least  
3 one water soluble agent consisting of a foaming agent, a  
4 sweetener, a fragrance, a medicament for inhibiting or  
5 preventing periodontal diseases or dental caries, or a  
6 coating agent.

1        4.    The prophylaxis chip as claimed in claims 1 or 2,  
2 wherein the core is reticular or porous and at least one  
3 water soluble agent consisting of a foaming agent, a  
4 sweetener, a fragrance, a medicament for inhibiting or  
5 preventing periodontal diseases or dental caries, or a  
6 coating agent is disposed in the hollow portion of the core,  
7 or the core is filled with a water-retaining sponge immersed  
8 in the water soluble agent, wherein the water soluble agent  
9 is releasable from the surface of the hydrophilic grindstone  
10 sponge covering the core.

1        5.    The prophylaxis chip as claimed in any one of claims 1-  
2 4, wherein the outside of the core is nonwoven to maintain  
3 the grindstone and has hydrophilicity and flexibility.

1        6.    The prophylaxis chip as claimed in any one of claims 1-  
2 4, wherein the outside of the sponge covering the core is a  
3 three-dimensionally continuous, porous film for conducting a  
4 solution from a flexible polishing agent.